Claim 8, line 9, cancel "or without shifting".

Claim 11, line 12, cancel "or without shifting".

Claim 14, line 3, change "type" (both occurrences) to --containing--.

Claim 18, line 3, change "which" to --that--.

Claim 24, line 3, change "which" to --that--.

REMARKS

Changes have been undertaken in the claims to overcome the rejection of claims 1, 4 to 8, 11, and 14 under the second paragraph of 35 USC 112. The term "or without shifting" has been stricken from those claims in which it appeared. The Examiner's helpful suggestion regarding a change in claim 14 has been made also. Various minor self-evident changes have been made in the specification and other claims. Claims 1 to 27 remain before the Examiner for consideration.

The present invention broadly is directed to a volume hologram laminate or a label for preparing same wherein the volume hologram laminate or its label therefor contains the volume hologram layer and at least a first adhesive layer and a second adhesive layer. The invention is directed to various ways in which the laminate or label therefor are arranged wherein a material is contained in the first and/or second adhesive layers to control properties of the

overall volume hologram laminate. More particularly, the invention involves ways of the control and optional setting of a desirable reproduced wavelength, obtaining a desirable reproduced wavelength by controlling the shifted amount of the reproduced wavelength from a recorded wavelength, and being able to provide a wide reproduced band of refracting light to give a brilliant hologram. The volume hologram laminate is particularly useful as a color filter in a mono-or full-color hologram product or liquid crystalline optical element. Applicants respectfully submit that the subject matter claimed herein is neither taught nor suggested in the references of record.

The rejection of claims 1 to 3 and 15 to 17 under 35 USC 102 as allegedly fully anticipated by Nakamachi et al. '525 is respectfully traversed. It is agreed that the reference shows a hologram having a PET film, a PVB film, and a glass substrate on either side. The Examiner correctly points that the PET film is chosen so that the plasticizer from the PVB does not migrate into the holographic film. Indeed, the reference relates to a laminated glass incorporating therein a hologram sheet so structured that wavelength shift is prevented. The reference discloses that it is important to prevent a plasticizer in the PVB film from transferring to the hologram sheet. Accordingly, the reference contains a teaching that is opposite from that of the present

invention in which an adhesive layer contains a shifting substance so that a reproduced wavelength of hologram recorded in the volume hologram layer is controlled with shifting of that shifting substance between the adhesive layer and the volume hologram layer. There is no awareness of any such technique in Nakamachi et al. '525. The rejection should be withdrawn.

Applicants also respectfully traverse the rejection of claims 1, 4, 6 to 8, 11 to 13, 15 to 17, and 19 to 21 under 35 USC 102 as allegedly fully anticipated by Ueda et al. '598. The reference structure described in the fourth full paragraph of page 3 of the Office Action is correct but the structure does not teach or suggest the present invention. Ueda et al. '598 teaches using a color tuning film to control the reproduced wavelength of the hologram. In an embodiment such as depicted in the patent, placing a color tuning film adjacent to a volume hologram layer results in a thick film thickness of the volume hologram laminate; see the prior art discussion of this problem in the specification at page 2, lines 8 to 16. The present invention, on the other hand, is directed to a structure wherein the adhesive layer(s) has or have a color tuning effect and the patent does not teach or suggest the invention as claimed. Indeed, Ueda et al. '598 has the structure it does because the patentees were not aware of the advantages provided by the present invention.

The rejection of claims 1, 3, 6, and 7 under 35 USC 102 as allegedly clearly anticipated by Mizutani et al. '626 is also respectfully traversed. The reference shows a device wherein the adhesive layer functions as a barrier layer; the reference is directed to a technique to prevent shifting. There is no shifting component in the adhesive layer; the adhesive layer can contain a compound that absorbs an acid component. Mizutani et al. '626 is not directed to controlling a reproduced wavelength of a recorded hologram in the volume hologram layer by shifting a substance in the adhesive layer(s) between the layer(s) and the volume hologram layer. The subject matter of the applicants' invention is not taught or suggested by this patent

The rejection of claim 1 under 35 USC 102 as anticipated by Kai et al. JP '484 is respectfully traversed. The publication is directed to the prevention of wavelength shift and teaches use of a synthetic resin adhesive containing no plasticizer. The reference does not teach or suggest the invention claimed herein.

Applicants also respectfully traverse the rejection of claims 1 to 27 under 35 USC 103 as unpatentable over Morii et al. WO '607. The reference describes using an adhesive containing an encapsulated diffusing material that is used to destroy the hologram should the laminate be forcibly peeled apart. The reference does not teach or suggest using embodiments wherein

shiftable wavelength control materials are present in the adhesive layers as claimed herein and the rejection should be withdrawn.

The rejection of claims 1 to 4, 6 to 17 and 19 to 21 under 35 USC 103 as unpatentable over Ueda et al. '598 and Smothers et al. EP '772 in view of Mizutani et al. '626 and/or Kai et al. JP '484 is respectfully traversed. All the references save the Smothers et al. publication have been discussed previously. Smothers et al. is directed to a color tuning film and does not teach or suggest placement of materials in the adhesive layers for shift control. The reference does not overcome the deficiencies of the other references in the rejection. The rejection should be withdrawn.

The rejection of claims 1 to 4, 6 to 17, and 19 to 22 under 35 USC 103 as unpatentable over Ueda et al. '598 and Smothers et al. '772 in view of Morii et al. '607 is also respectfully traversed. As discussed above, none of the references teach or suggest the presence of shiftable wavelength control materials in the adhesive layers. Therefore, those references in combination do not teach or suggest the invention as claimed.

Applicants also respectfully traverse the rejection of claims 1 to 27 under 35 USC 103 as allegedly unpatentable over Ueda et al. '598 and Smothers et al. in view Yamagishi et al. JP '684, Tarumi et al. '107 or Weber et al. '863. The primary references and their deficiencies have been discussed above. Yamagishi et al. JP '684

describes a liquid acrylate adhesive layer containing a multi-functional (meth)acrylate and polymerization initiator. The reference does not teach or suggest the shiftable wavelength control substances in the adhesive layers of the present invention.

Tarumi et al. '107 does disclose various adhesives but there is no teaching or suggestion of using shiftable wavelength controls as in the present invention.

Weber et al. '863 in Fig. 2 shows an optical combiner with three adhesive layers. This references, as the others discussed already, contains no recognition or awareness of the shiftable wavelength control substance in the adhesive layers as claimed herein and the rejection should be withdrawn.

The Examiner is thanked for acknowledging receipt of the certified copy of applicants' priority document and for listing the references provided in an Information Disclosure Statement.

In view of the foregoing revisions and remarks, it is respectfully submitted that claims 1 to 27 are in condition for allowance and a USPTO paper to those ends is earnestly solicited.

The Examiner is requested to contact the undersigned if further changes are required prior to allowance.

Respectfully submitted,

PARKHURST & WENDEL, L.L.P

March 3, 2000
Date

Charles A. Wendel
Registration No. 24,453

CAW/ch

Attorney Docket No.: DAIN:499

PARKHURST & WENDEL, L.L.P.
1421 Prince Street, Suite 210
Alexandria, Virginia 22314-2805
Telephone: (703) 739-0220